IN THE CLAIMS

Please cancel claims 36-40, 42, 54, 58, and 66.

1-40. (Cancelled)

41. (Currently Amended) A weight sensing apparatus for a vehicle seat comprising:

a plurality of sensors each including a mounting portion for attachment to a vehicle seat structure and a deflectable portion that deflects in response to a weight force applied to the vehicle seat structure to generate a weight signal wherein each of said sensors includes a sensor interface circuit mounted to said deflectable portion that develops a pulse width modulation signal indicative of the weight applied to said corresponding sensor;

at least one strain gauge mounted to said deflectable portion of each of said sensors; and

a controller for receiving said weight signals from said sensors to determine seat occupant weight.

42. (Cancelled)

43. (Currently Amended) n apparatus as in claim 41 ~~42~~ wherein said at least one strain gauge is a plurality of strain gauges mounted in a predetermined spaced relationship to each other on said deflectable portion.

44. (Currently Amended) An apparatus as in claim 41 ~~42~~ wherein said seat structure is a seat pan.

45. (Previously Presented) An apparatus as in claim 44 wherein each of said sensors includes a support portion mounted to a vehicle seat track member such that said deflectable portion is positioned between said mounting and support portions.

46. (Previously Presented) An apparatus as in claim 44 wherein said seat pan is rectangular in shape defining four corners and said plurality of sensors is comprised of four sensors with one of said sensors mounted at each of said corners.

47. (Previously Presented) An apparatus as in claim 41 including a safety restraint device controlled by said controller in response to seat occupant weight.

48. (Previously Presented) An apparatus as in claim 47 wherein said safety restraint device is not deployed if seat occupant weight is below a predetermined weight.

49. (Currently Amended) A method for determining seat occupant weight including the steps of:

mounting a plurality of sensors to a vehicle structure with each sensor including a deflectable portion that deflects in response to a weight force applied to the vehicle seat structure;

mounting a strain gauge to the deflectable portion of each sensor;

associating a sensor interface circuit with each sensor mounted to the deflectable portion and developing a pulse width modulation signal indicative of the weight applied to the corresponding sensor;

generating a weight signal from each of the sensors in response to the deflection; and

determining seat occupant weight from the signals.

50. (Previously Presented) A method as in claim 49 further comprising the step of controlling a safety restraint device based on the seat occupant weight.

51. (Previously Presented) A method as in claim 50 further comprising the step of preventing deployment of the safety restraint device if the seat occupant weight is below a predetermined weight.

52. (Previously Presented) A method as in claim 49 further comprising the step of determining a center of gravity of the seat occupant from the signals.

53. (Previously Presented) A method as in claim 52 further comprising the step of controlling a safety restraint device based on the seat occupant weight and center of gravity.

54. (Cancelled)

55. (Previously Presented) A method as in claim 49 wherein the seat structure is a seat pan and the method further comprises the step of mounting the sensors between the seat pan and a seat track assembly.

56. (Previously Presented) A weight sensing apparatus for a vehicle seat comprising:

a plurality of sensors each including a mounting portion for attachment to a vehicle seat structure comprising a seat pan, a deflectable portion that deflects in response to a weight force applied to the vehicle seat structure to generate a weight signal, and a support portion mounted to a vehicle seat track member such that said deflectable portion is positioned between said mounting and support portions;

a plurality of strain gauges mounted to said deflectable portion of each of said sensors wherein said plurality of strain gauges comprises a first pair of strain gauges diametrically opposite from each other and mounted directly to said deflectable portion at a first position and a second pair of strain gauges diametrically opposite from each other and mounted directly to said deflectable portion at a section position spaced apart from said first position; and

a controller for receiving said weight signals from said sensors to determine seat occupant weight.

57. (Previously Presented) An apparatus as in claim 56 wherein both of said first pair of strain gauges are positioned between said second pair of strain gauges on a common surface of said deflectable portion.

58. (Cancelled)

59. (Currently Amended) An apparatus as in claim ~~58~~ 41 wherein said sensor interface circuit includes a pulse width modulation circuit and a two-stage signal amplifier for amplifying said pulse width modulation signal to a readable level.

60. (Previously Presented) An apparatus as in claim 59 including a temperature control circuit for compensating for varying temperatures within the sensor interface circuit.

61. (Currently Amended) An apparatus as in claim ~~42~~ 41 wherein said controller calculates weight of an occupant by sampling the response of each of said sensors to a weight applied to said vehicle seat structure.

62. (Currently Amended) ~~An apparatus as in claim 61~~ A weight sensing apparatus for a vehicle seat comprising:

a plurality of sensors each including a mounting portion for attachment to a vehicle seat structure and a deflectable portion that deflects in response to a weight force applied to the vehicle seat structure to generate a weight signal;

at least one strain gauge mounted to said deflectable portion of each of said sensors; and

a controller for receiving said weight signals from said sensors to determine seat occupant weight wherein said controller calculates weight of an occupant by sampling the response of each of said sensors to a weight applied to said vehicle seat structure and wherein said controller samples said sensors approximately very thirty milliseconds.

63. (Currently Amended) ~~An apparatus as in claim 61~~ A weight sensing apparatus for a vehicle seat comprising:

a plurality of sensors each including a mounting portion for attachment to a vehicle seat structure and a deflectable portion that deflects in response to a weight force applied to the vehicle seat structure to generate a weight signal;

at least one strain gauge mounted to said deflectable portion of each of said sensors; and

a controller for receiving said weight signals from said sensors to determine seat occupant weight wherein said controller calculates weight of an occupant by sampling the response of each of said sensors to a weight applied to said vehicle seat structure and wherein said controller determines the weight by computing a biased average of each of said sensors over time and summing all of said biased averages together to obtain a total weight.

64. (Currently Amended) An apparatus as in claim ~~62~~ 63 wherein said controller determines occupant center of gravity based on measurements taken by said sensors and determines occupant position based on total weight and center of gravity.

65. (Previously Presented) An apparatus as in claim 64 wherein said controller generates a correction factor based on said center of gravity and determines a corrected occupant weight by modifying said total weight by said correction factor.

66. (Cancelled)

67. (Currently Amended) A method as in claim ~~66~~ 49 including the steps of providing the sensor interface circuit with a two-stage signal amplifier and amplifying the pulse width modulation signals for each sensor to a readable level.

68. (Previously Presented) A method as in claim 67 including the step of providing the sensor interface circuit with a temperature control circuit for compensating for varying temperatures within the sensor interface circuit.

69. (Currently Amended) A method as in claim ~~54~~ 49 including the step of calculating weight of an occupant by sampling the response of each of the sensors to a weight applied to the vehicle seat structure.

70. (Currently Amended) ~~A method as in claim 69 including the step of~~ A method for determining seat occupant weight including the steps of:

mounting a plurality of sensors to a vehicle structure with each sensor including a deflectable portion that deflects in response to a weight force applied to the vehicle seat structure;

mounting a strain gauge to the deflectable portion of each sensor

generating a weight signal from each of the sensors in response to the deflection; and

determining seat occupant weight from the signals by calculating weight of an occupant by sampling the response of each of the sensors to a weight applied to the vehicle seat structure and including sampling the sensors approximately very thirty milliseconds.

71. (Currently Amended) ~~A method as in claim 69 including the steps of~~ A method for determining seat occupant weight including the steps of:

mounting a plurality of sensors to a vehicle structure with each sensor including a deflectable portion that deflects in response to a weight force applied to the vehicle seat structure;

mounting a strain gauge to the deflectable portion of each sensor

generating a weight signal from each of the sensors in response to the deflection; and

determining seat occupant weight from the signals by calculating weight of an occupant by sampling the response of each of the sensors to a weight applied to the vehicle seat structure and including determining the weight by computing a biased average of each of the sensors over time and summing all of the biased averages together to obtain a total weight.

72. (Previously Presented) A method as in claim 71 including the steps of determining occupant center of gravity based on measurements taken by the sensors and determining occupant position based on total weight and center of gravity.

73. (Previously Presented) A method as in claim 72 including the steps of generating a correction factor based on the center of gravity and determining a corrected occupant weight by modifying the total weight by the correction factor.